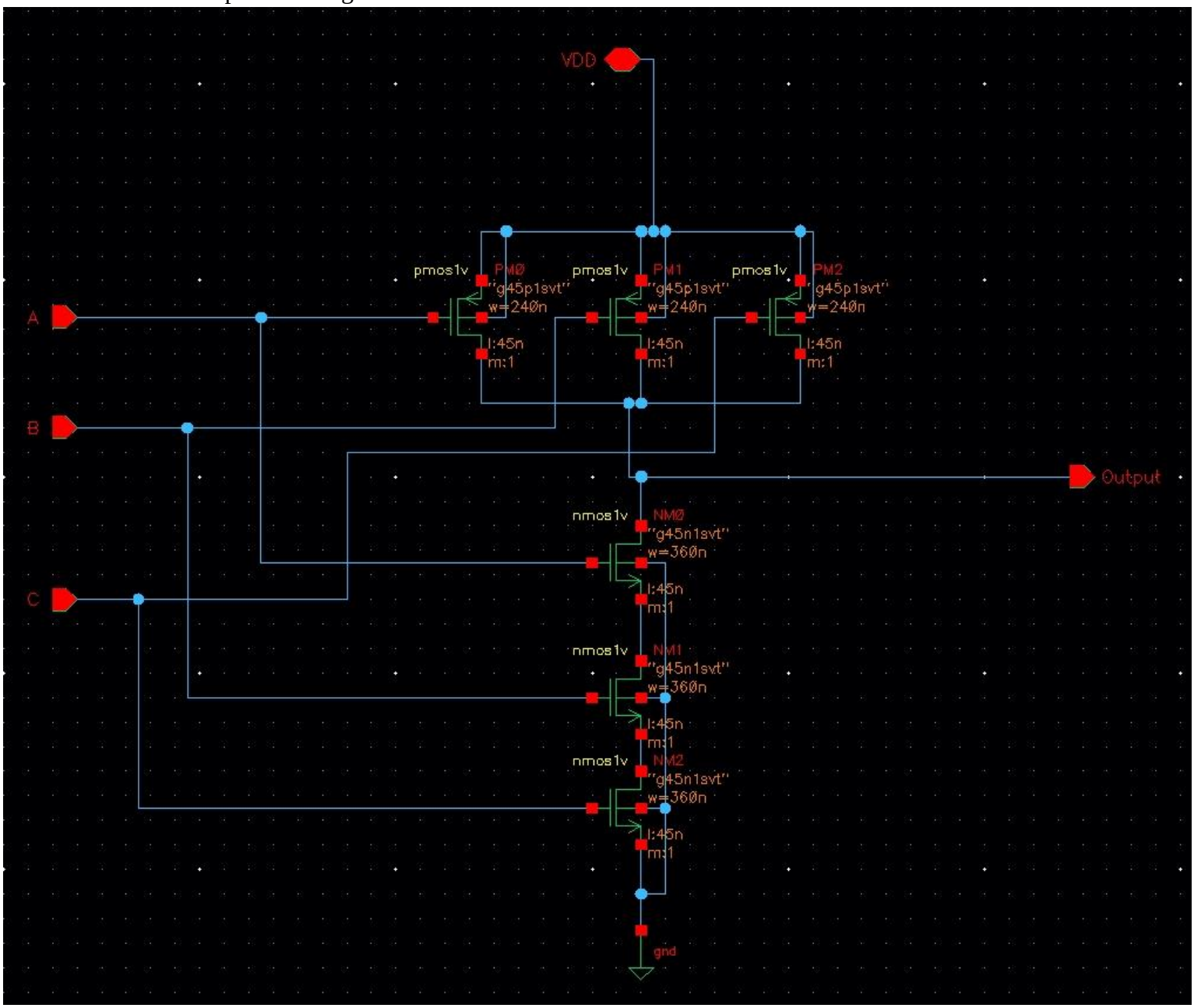
Kong Meng Vang
CPE 151-01 SP22

Cadence Project

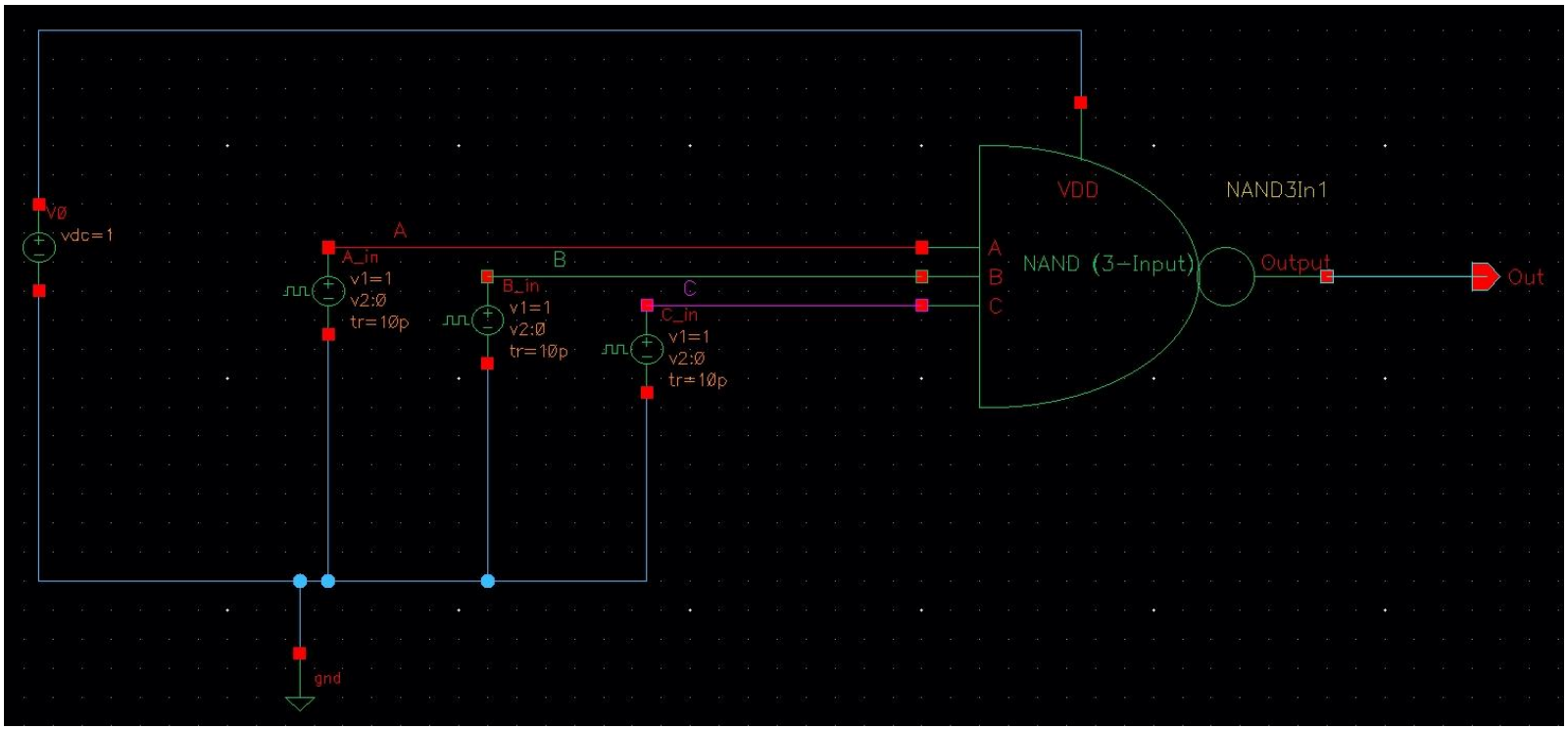
Schematics for Simple Combinational Logic Functions

Step-1: For each of the following, create schematics and simulate to verify operation.

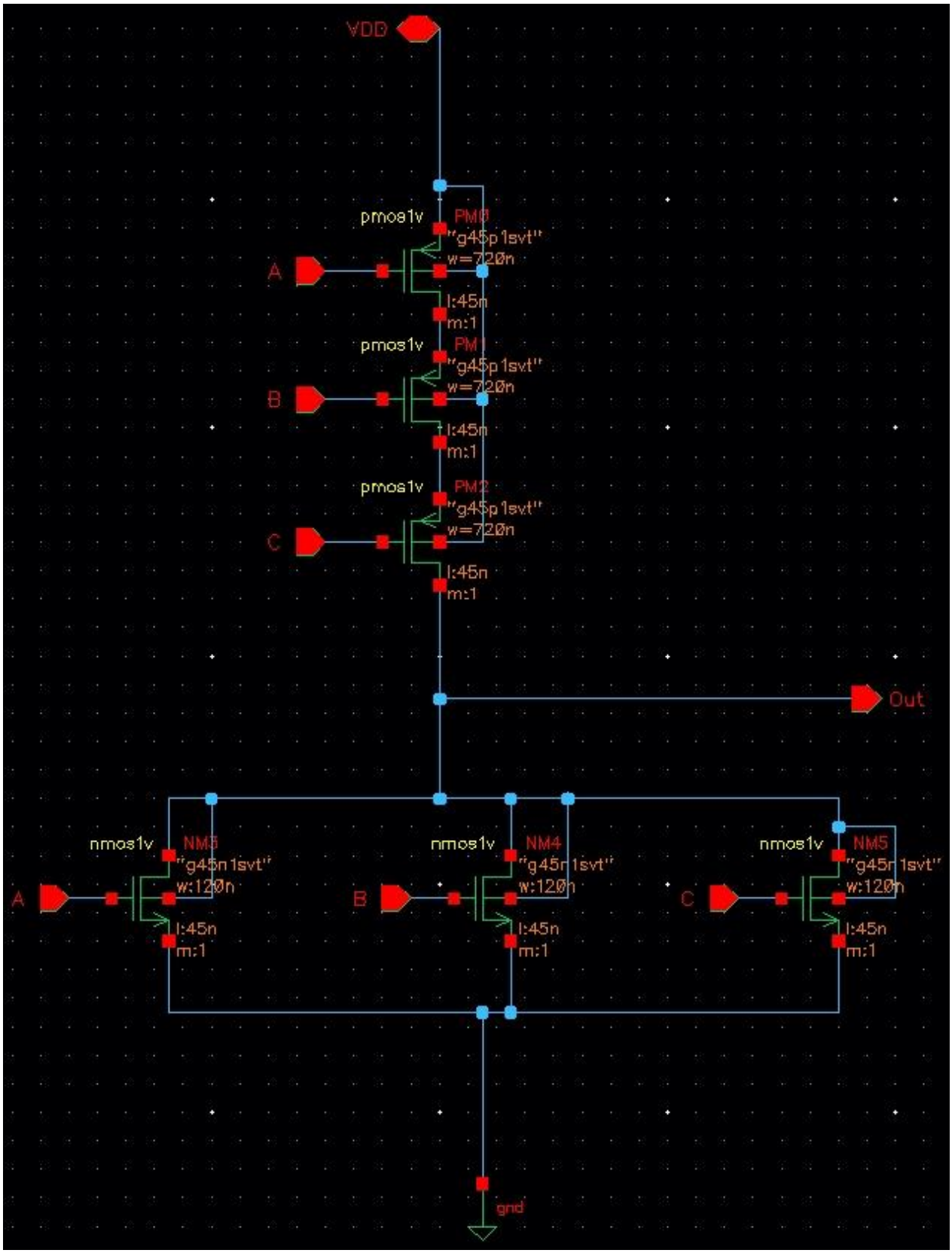
A. 3 input NAND gate



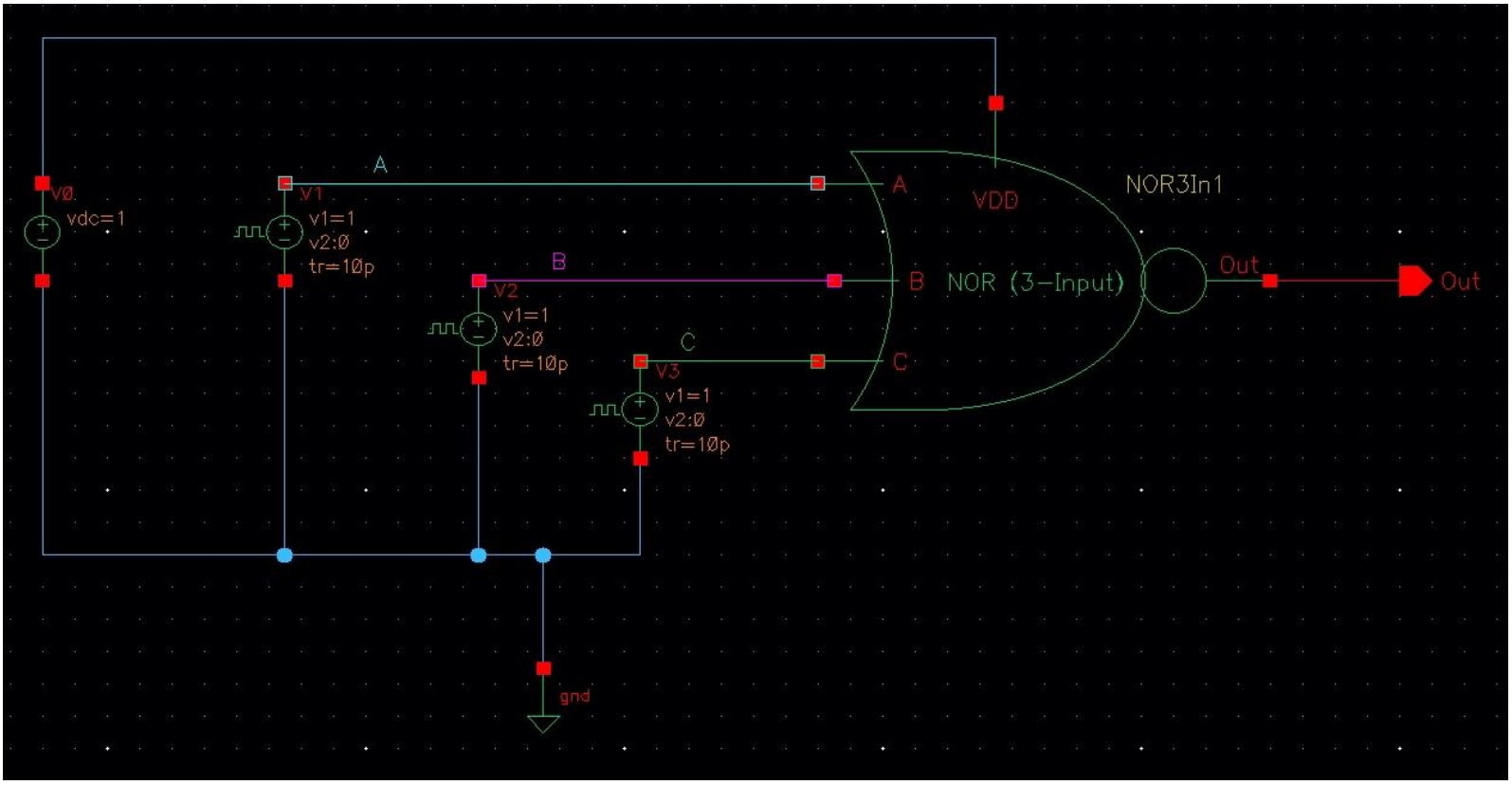
Kong Meng Vang
CPE 151-01 SP22

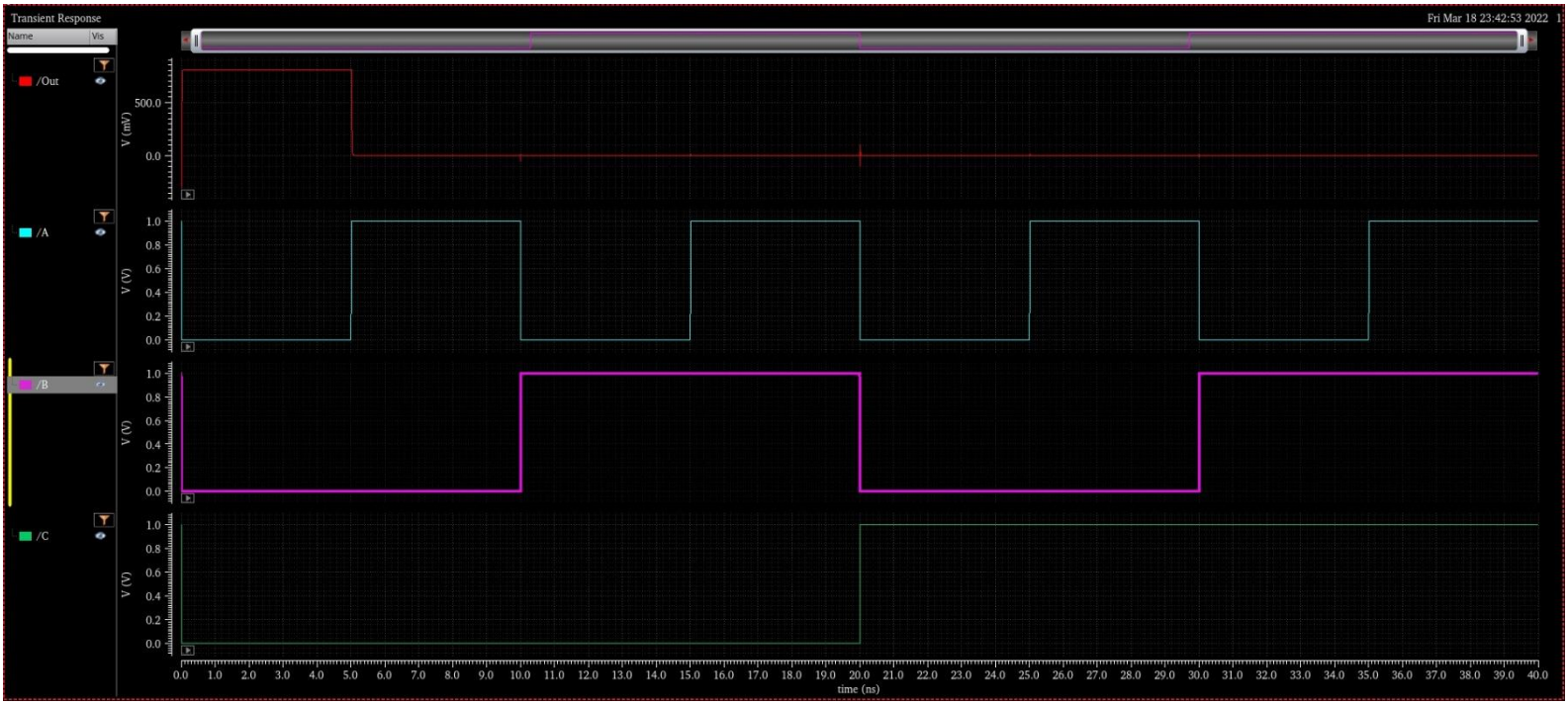


B. 3 input NOR gate

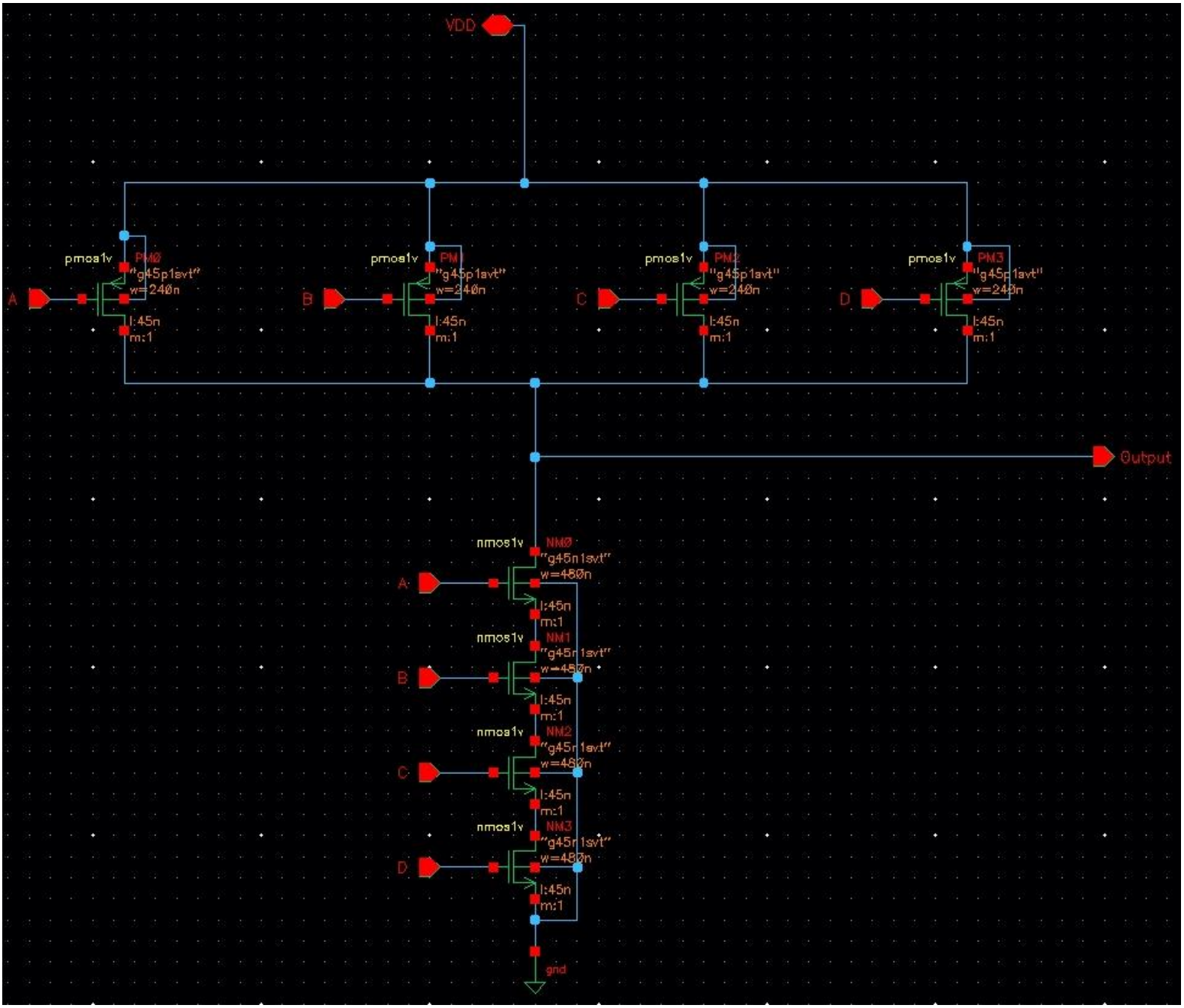


Kong Meng Vang
CPE 151-01 SP22

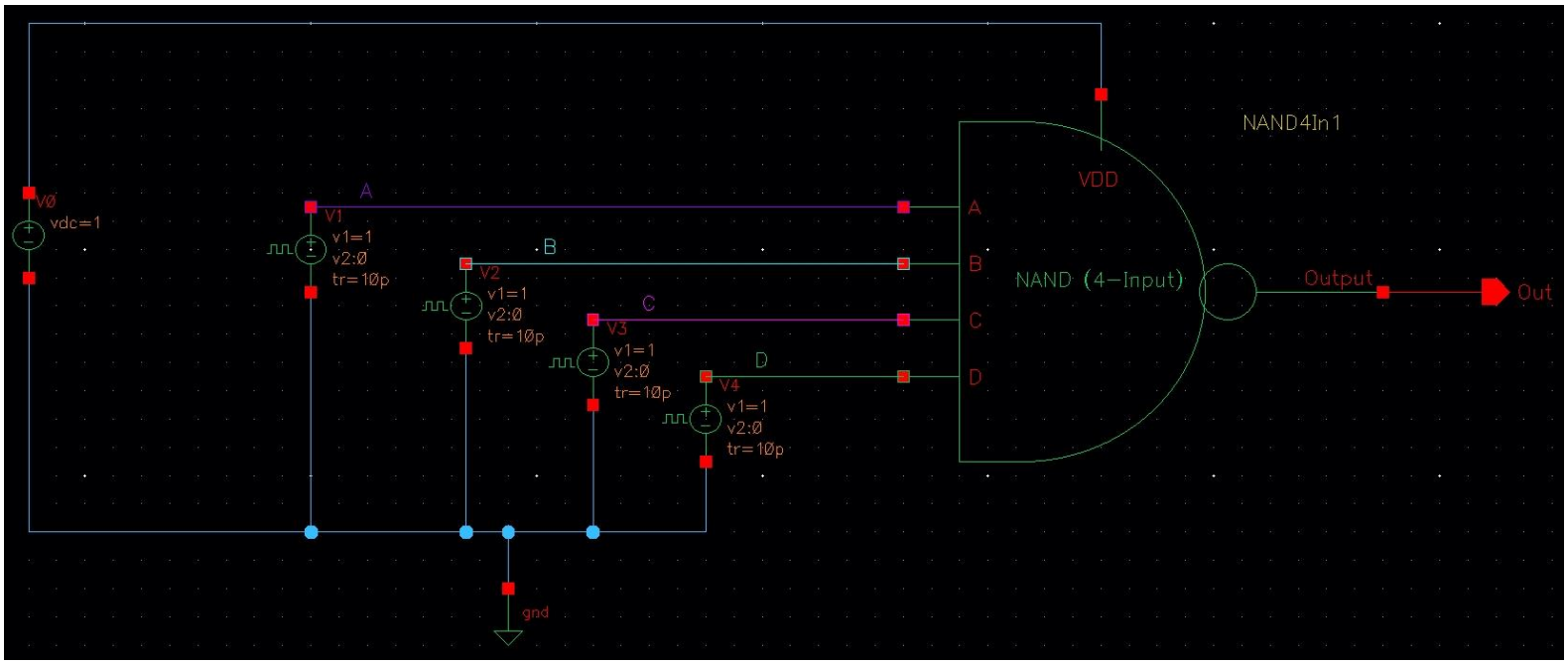


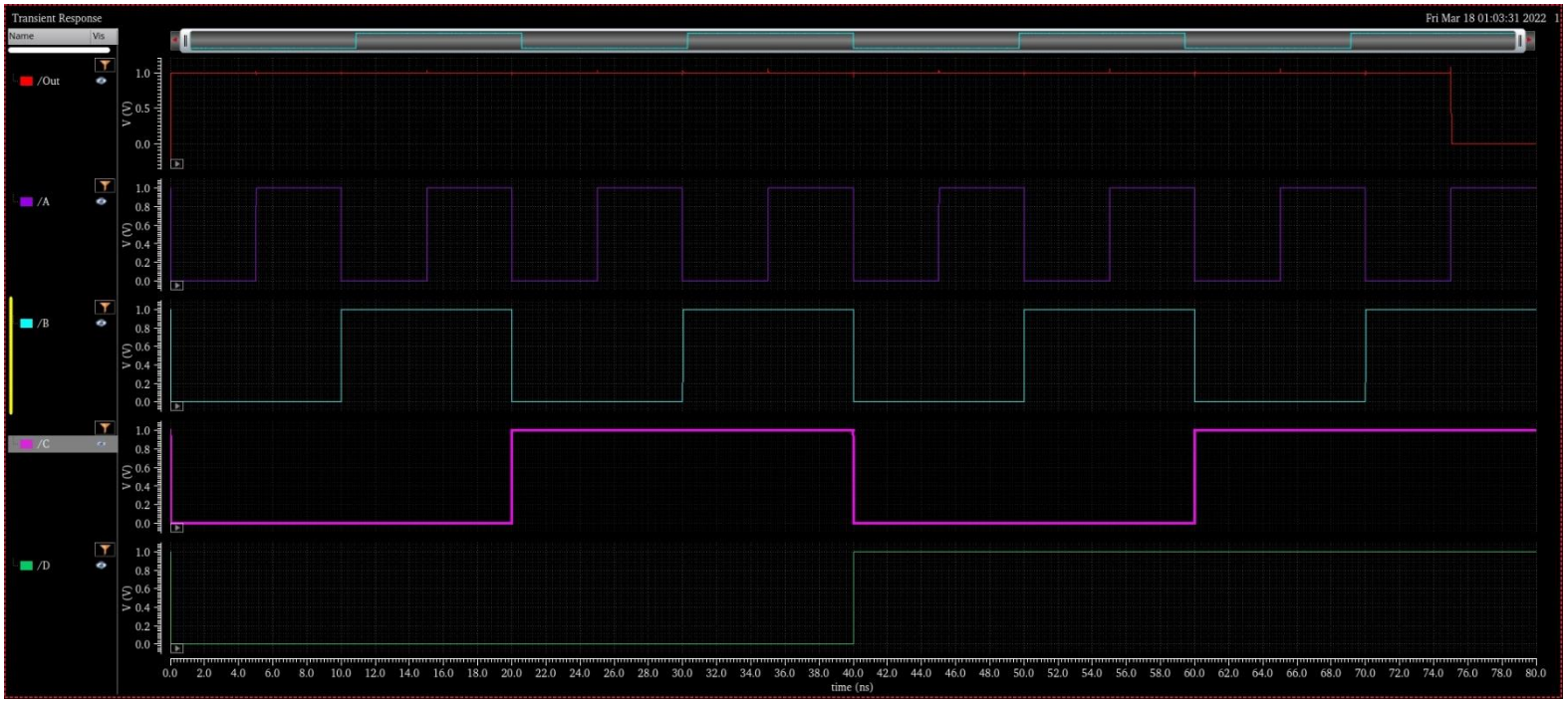


C. 4 input NAND Gate



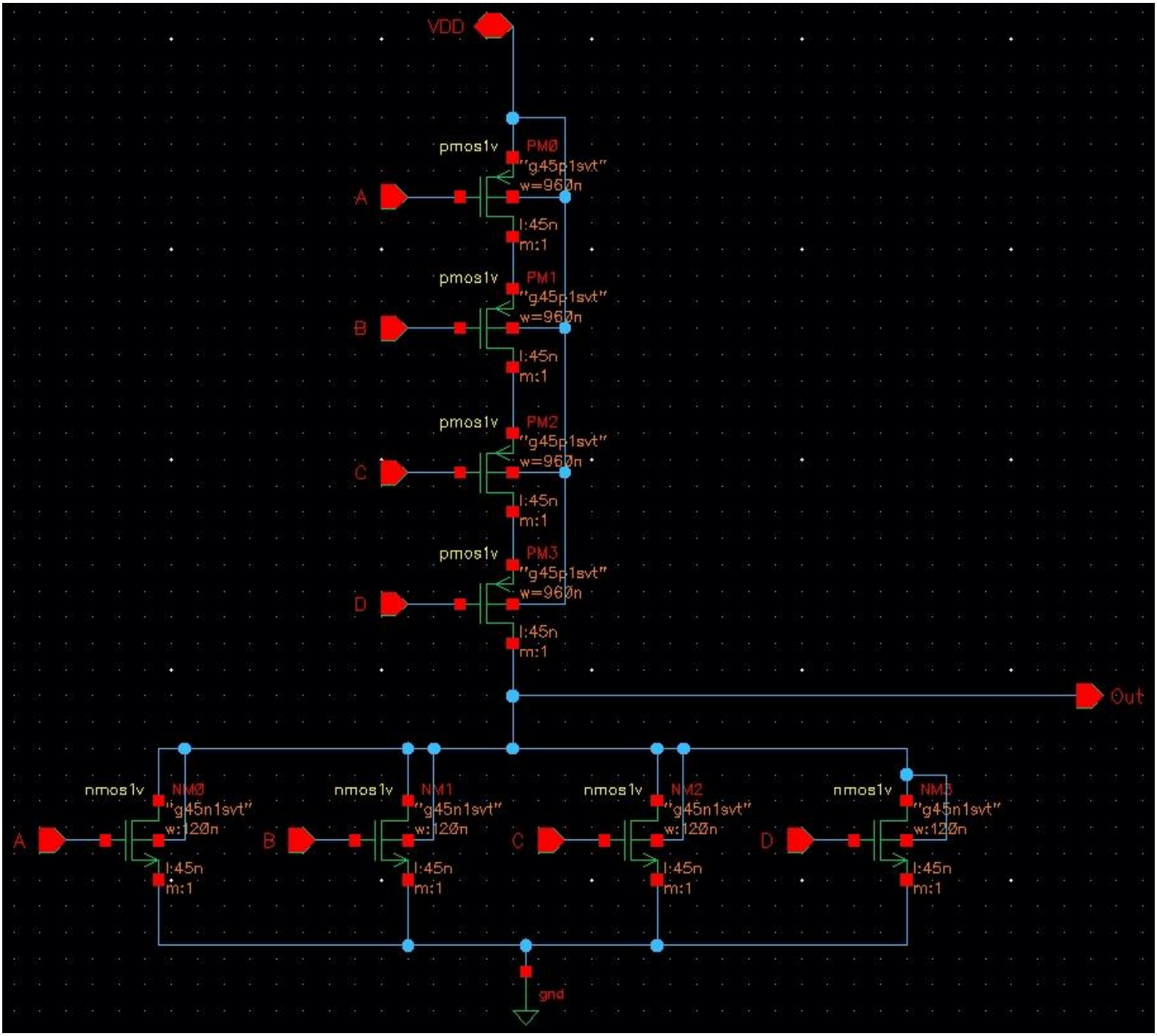
Kong Meng Vang
CPE 151-01 SP22



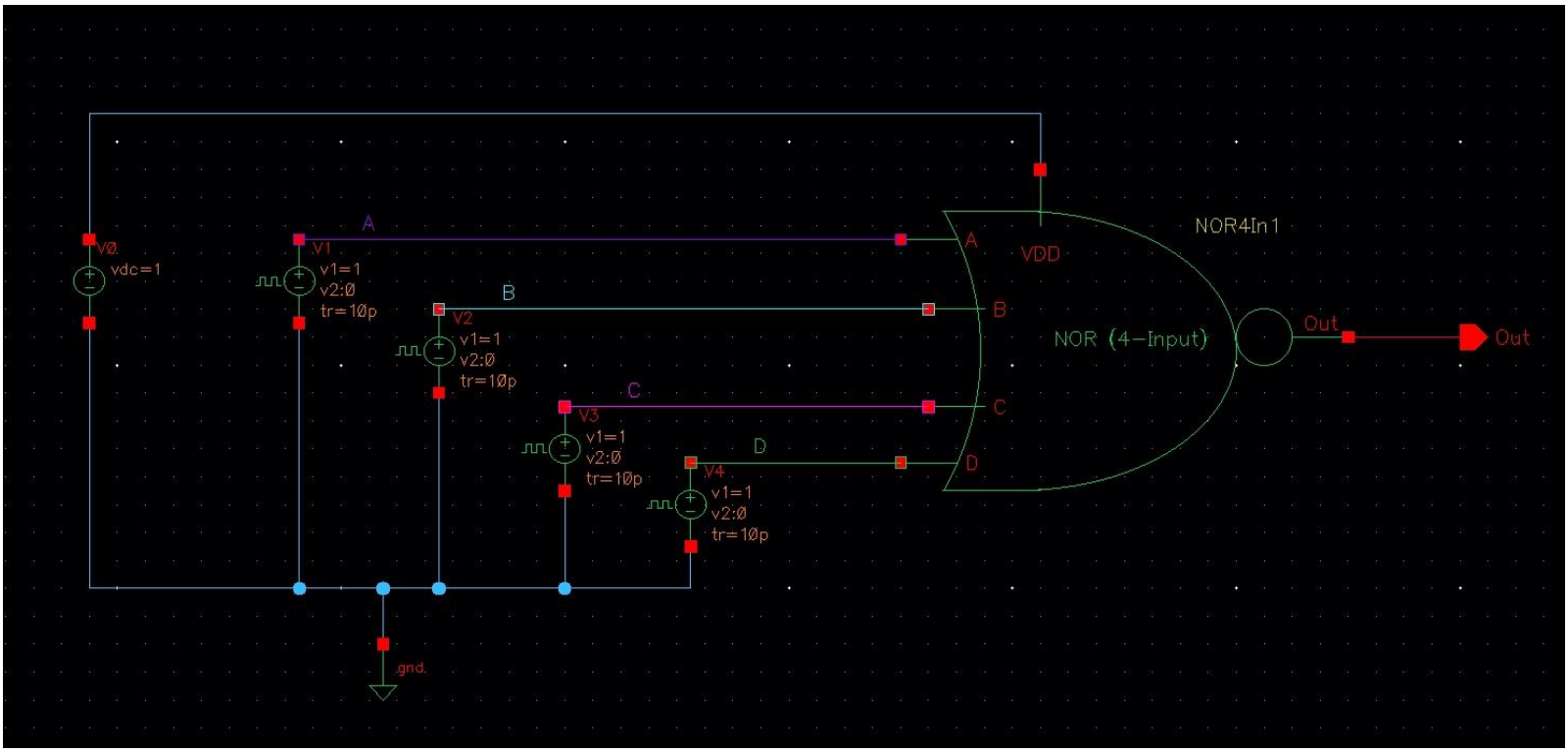


Kong Meng Vang
CPE 151-01 SP22

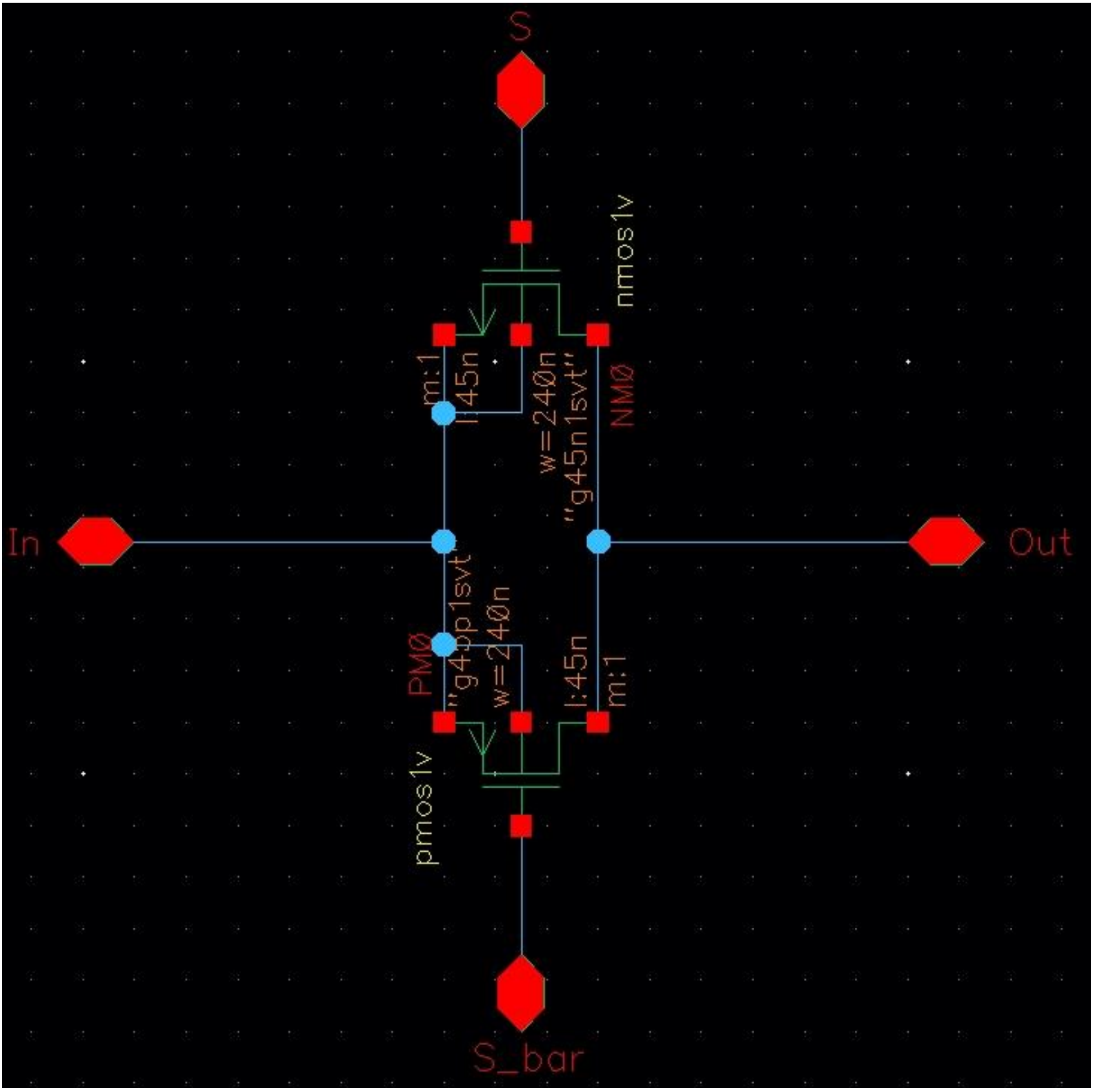
D. 4 input NOR gate



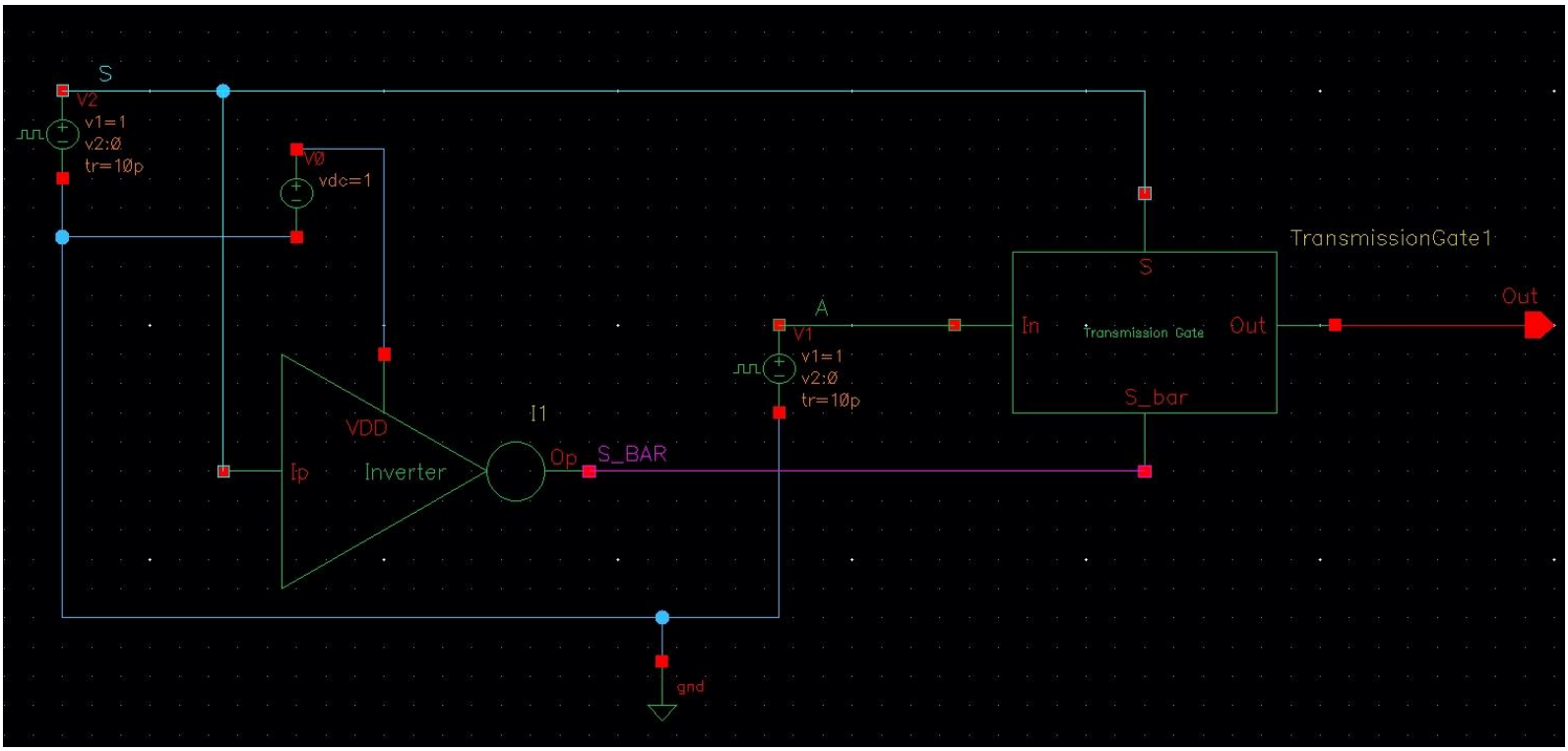
Kong Meng Vang
CPE 151-01 SP22

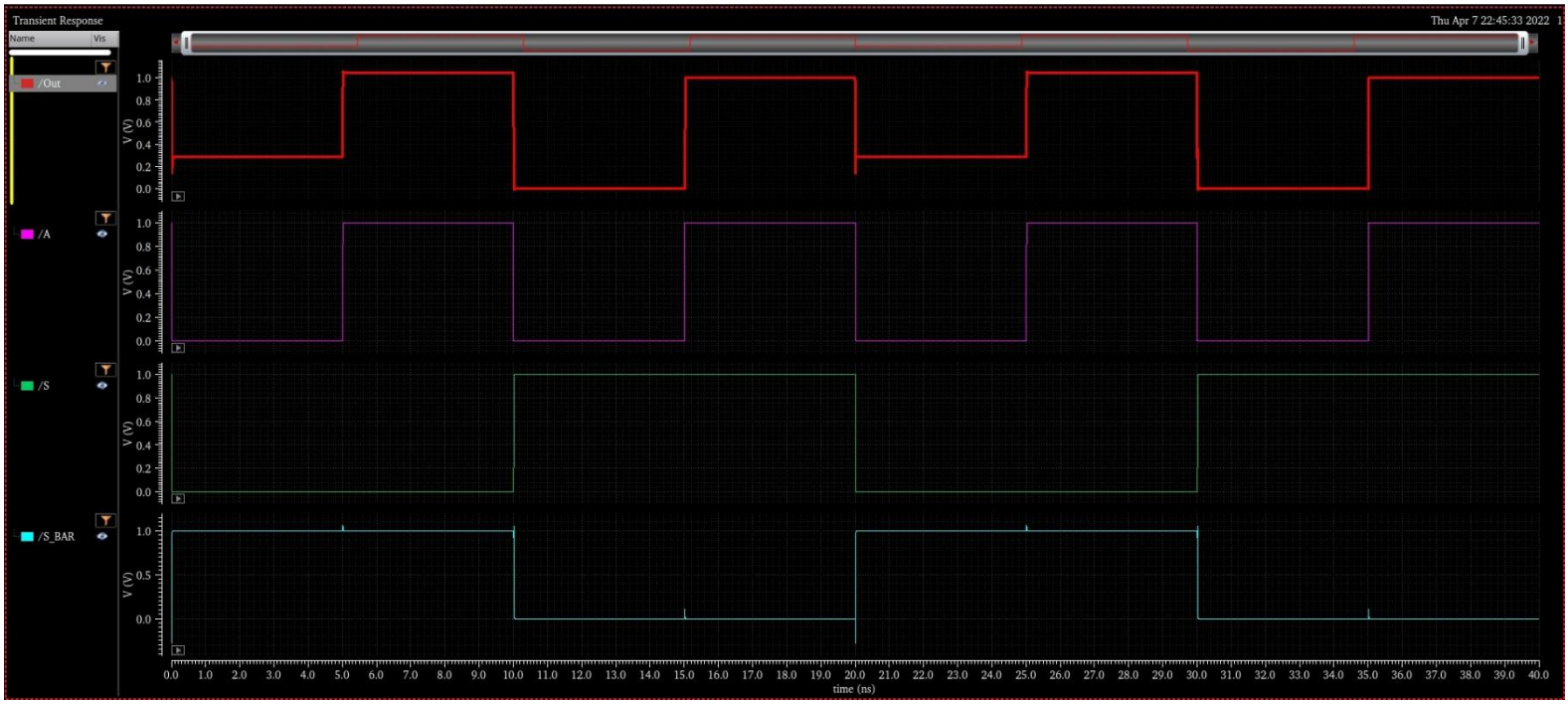


E. Transmission Gate

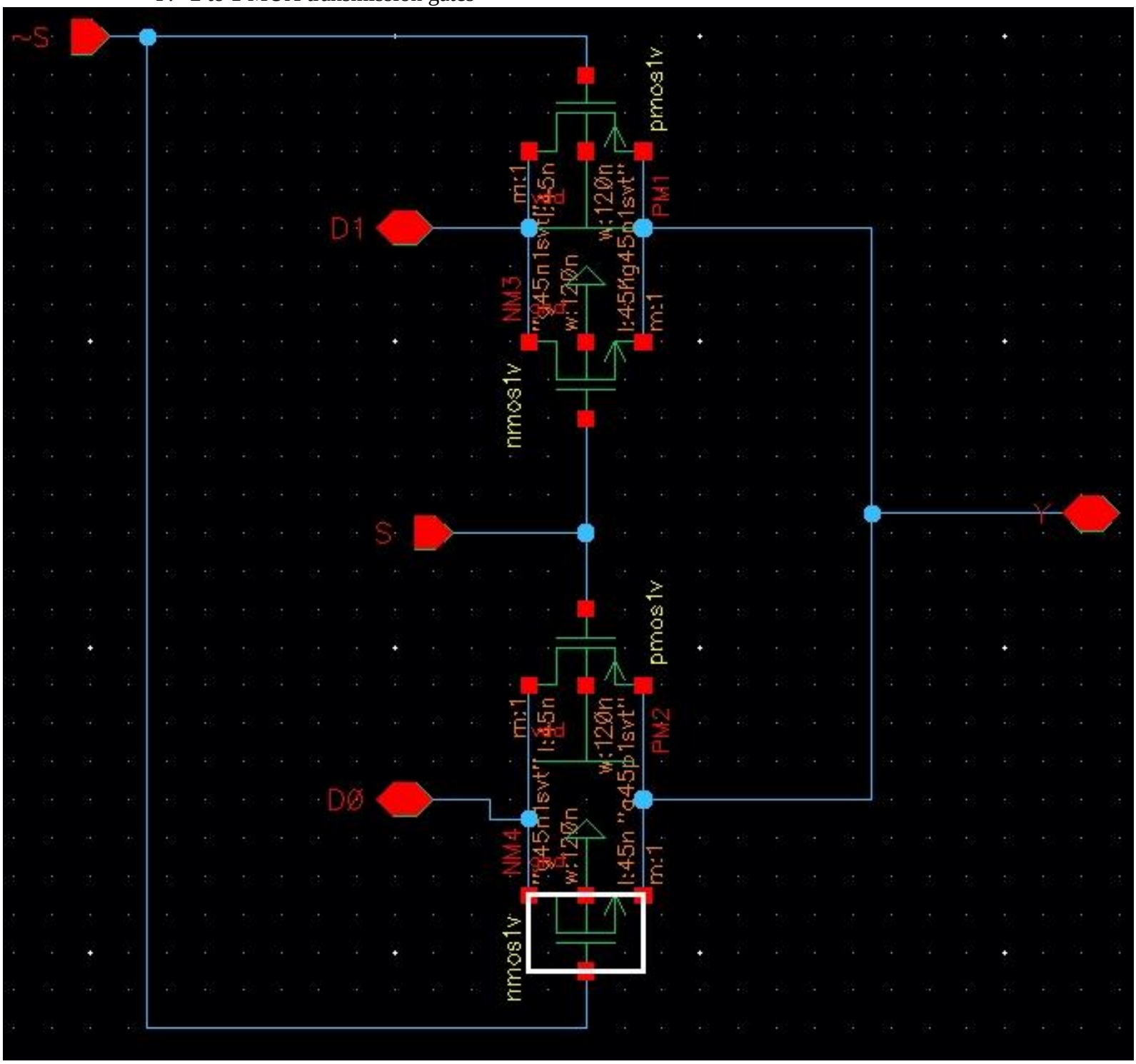


Kong Meng Vang
CPE 151-01 SP22

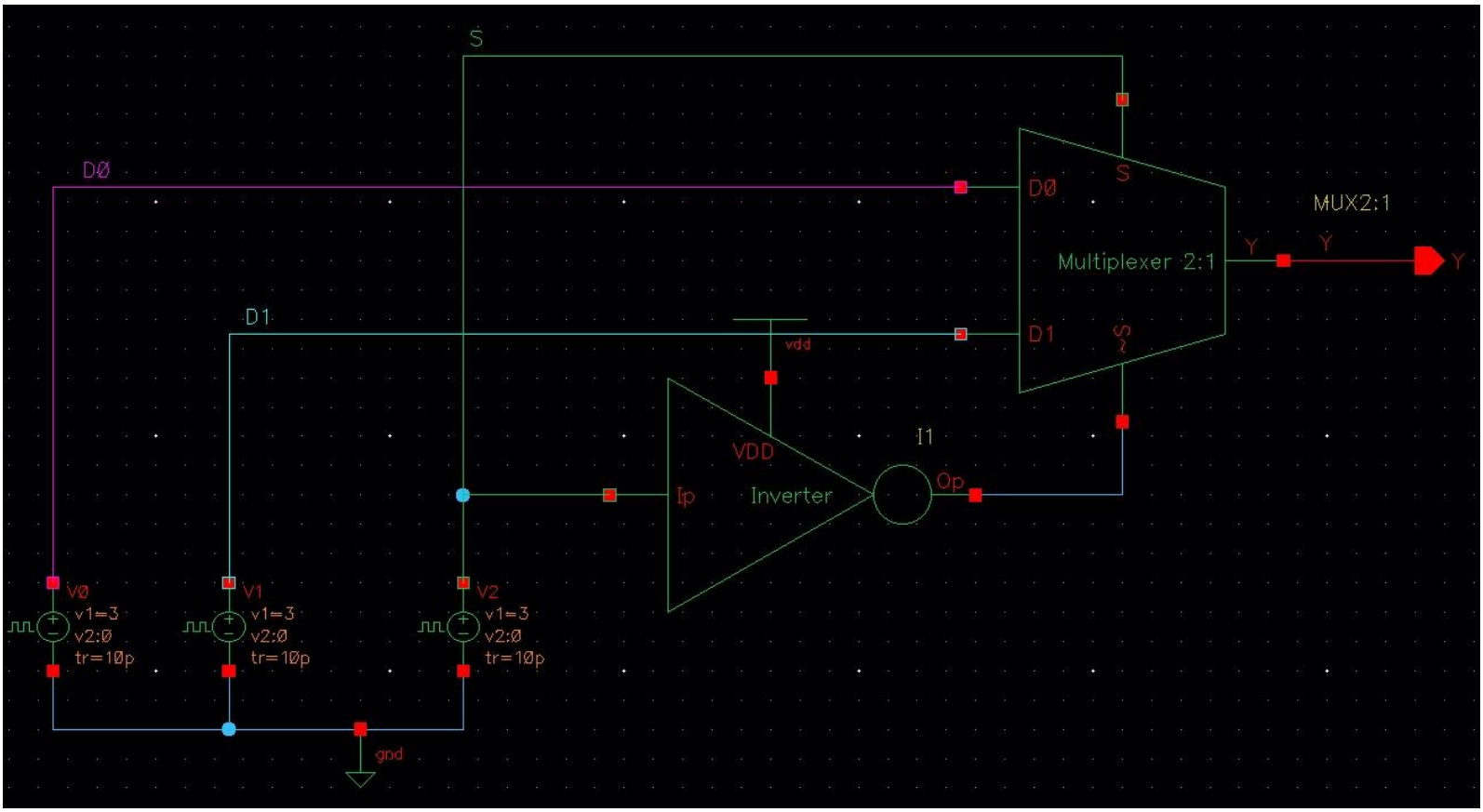


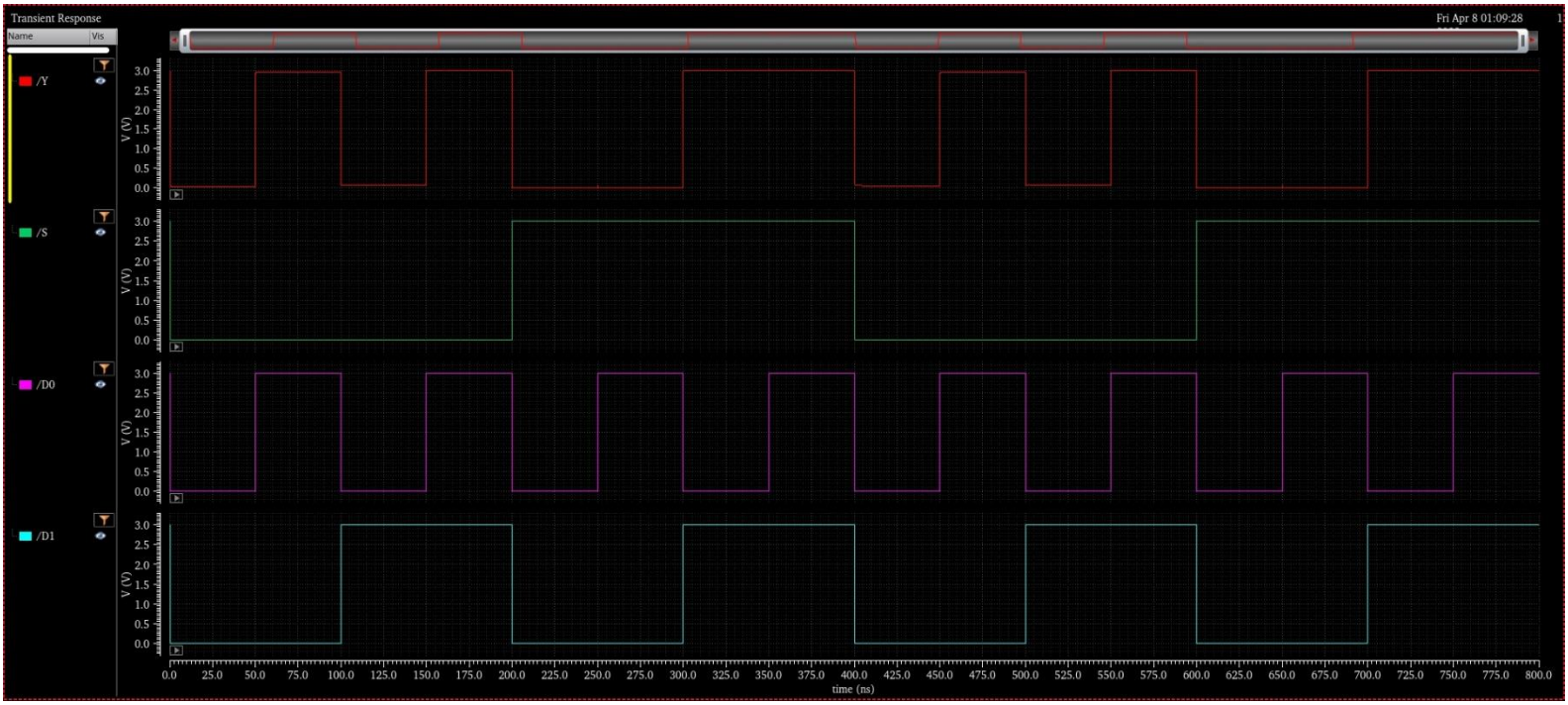


F. 2 to 1 MUX transmission gates

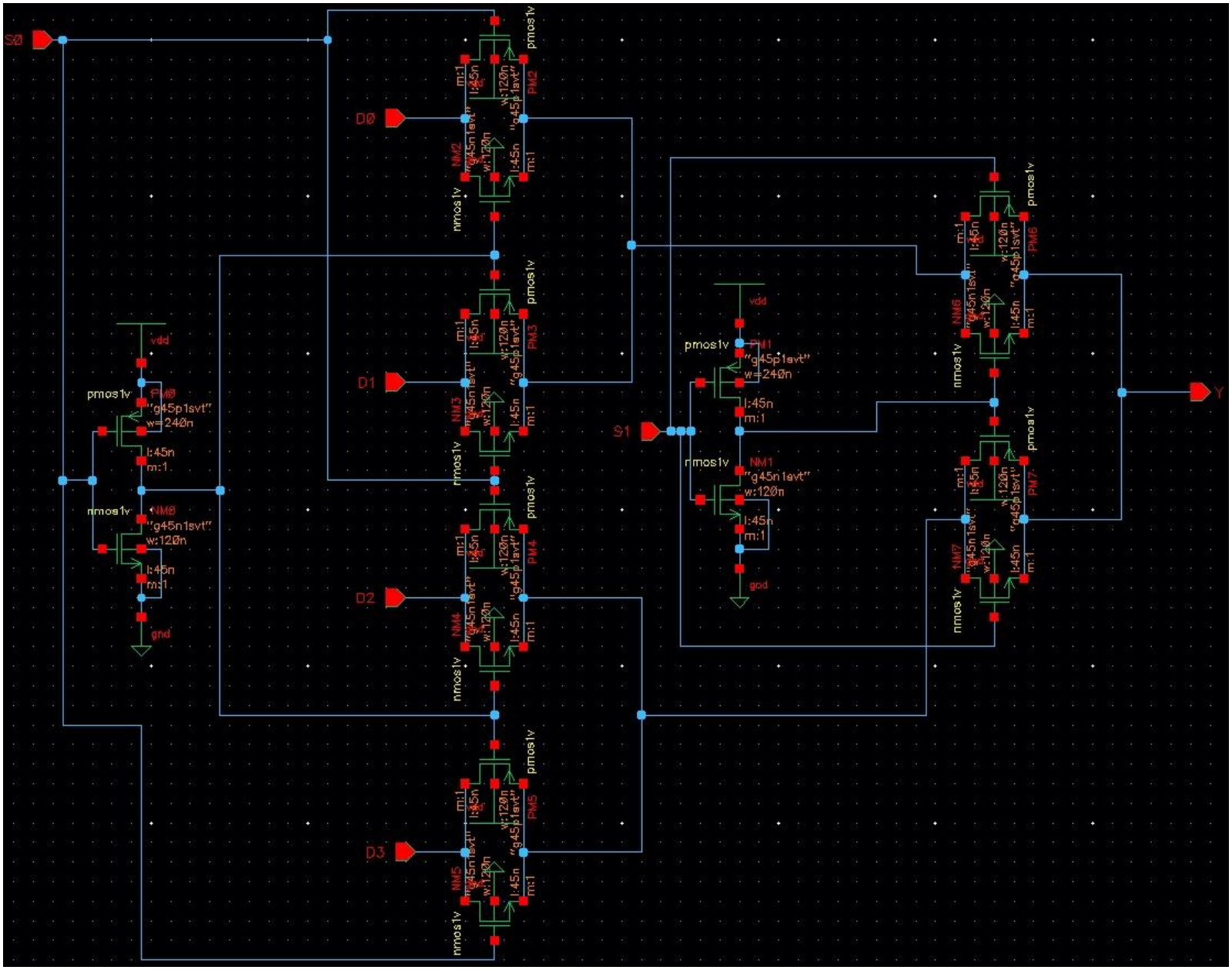


Kong Meng Vang
CPE 151-01 SP22

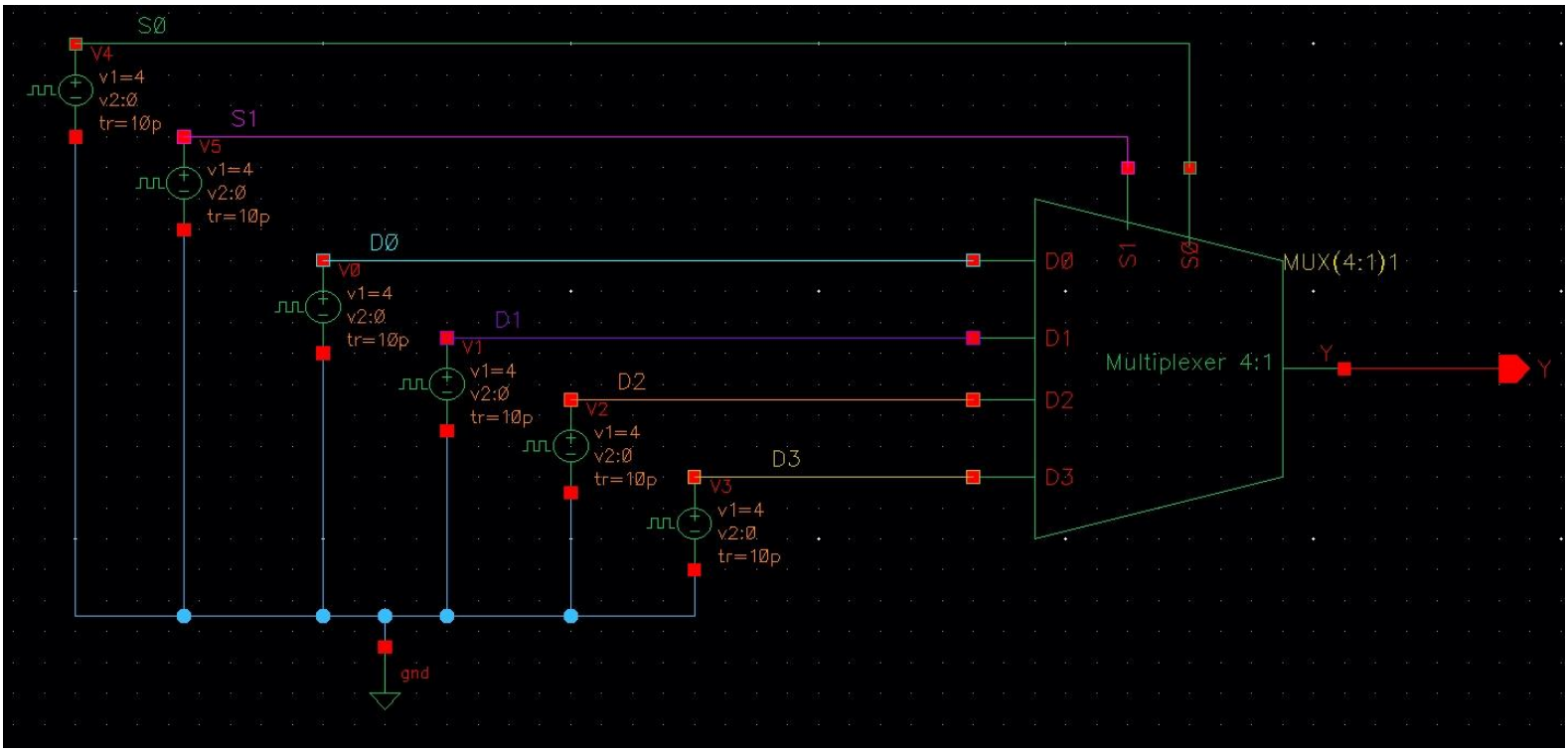


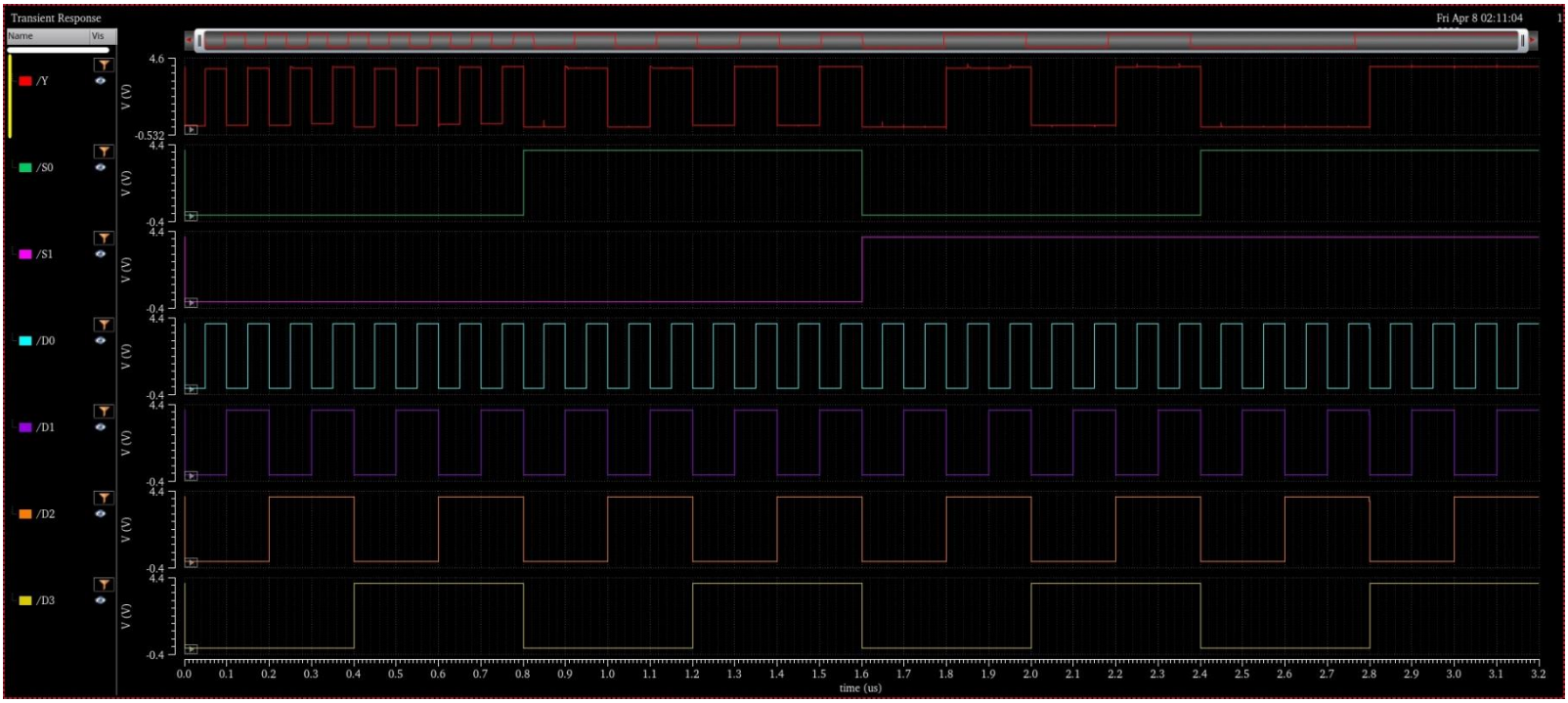


G. 4 to 1 MUX using Transmission gates

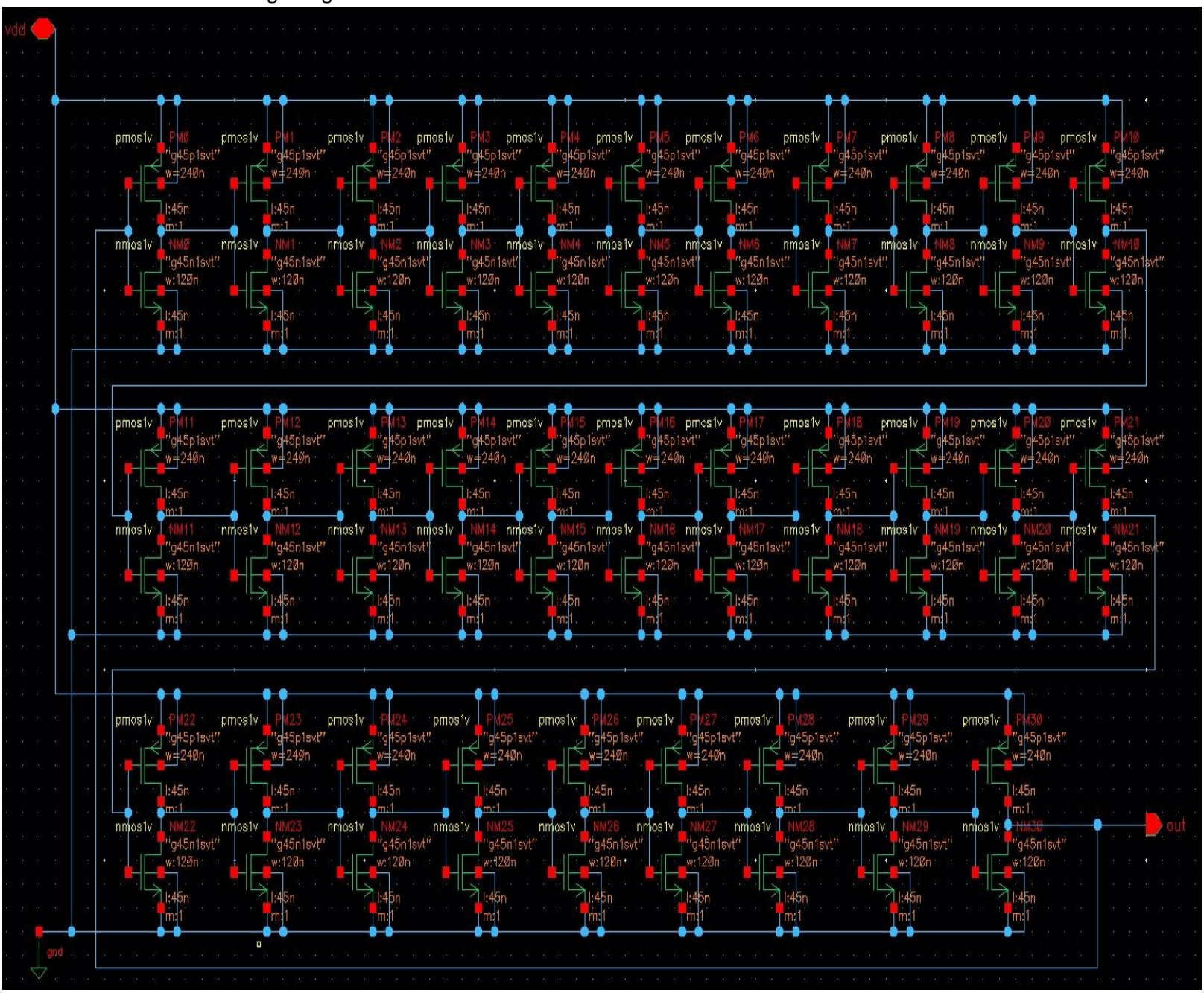


Kong Meng Vang
CPE 151-01 SP22

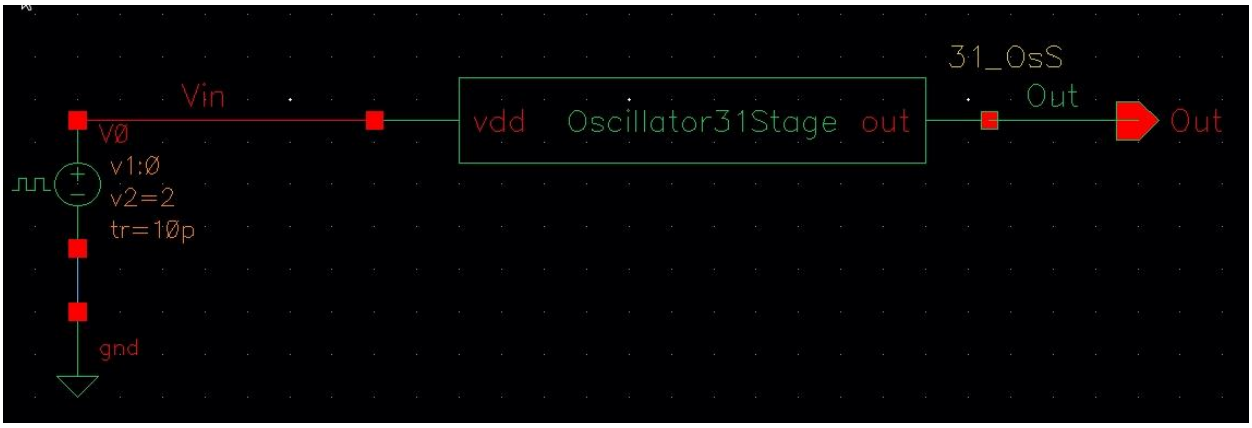


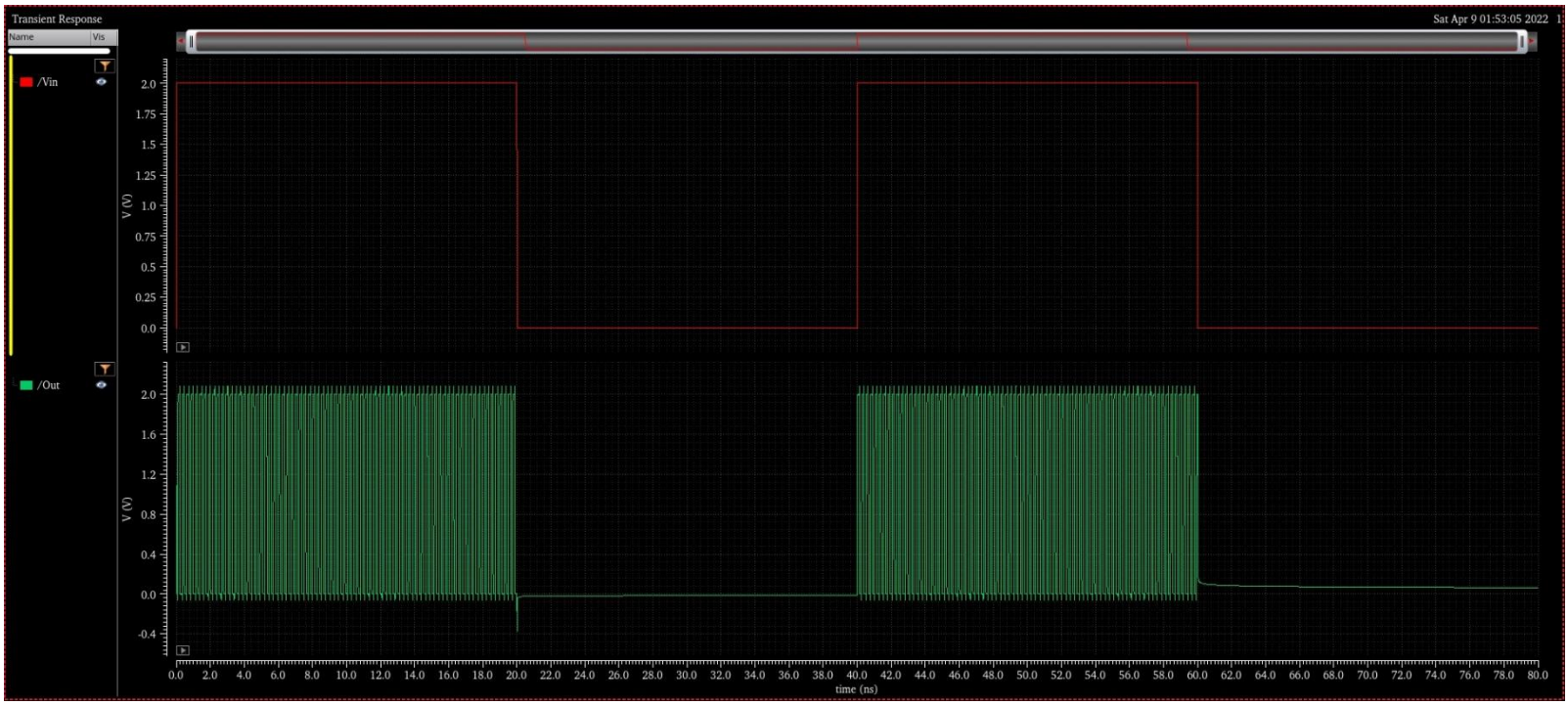


H. 31 Stage Ring Oscillator

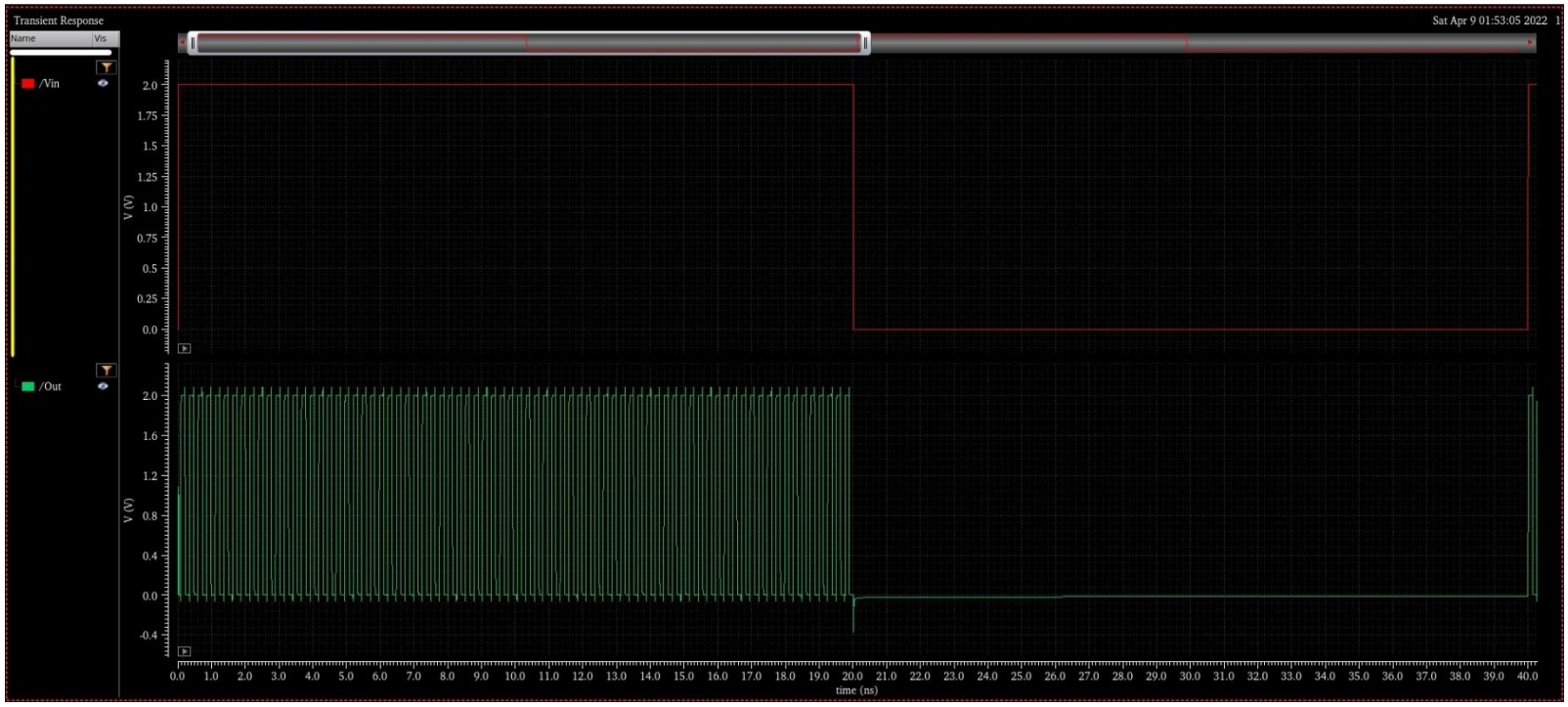


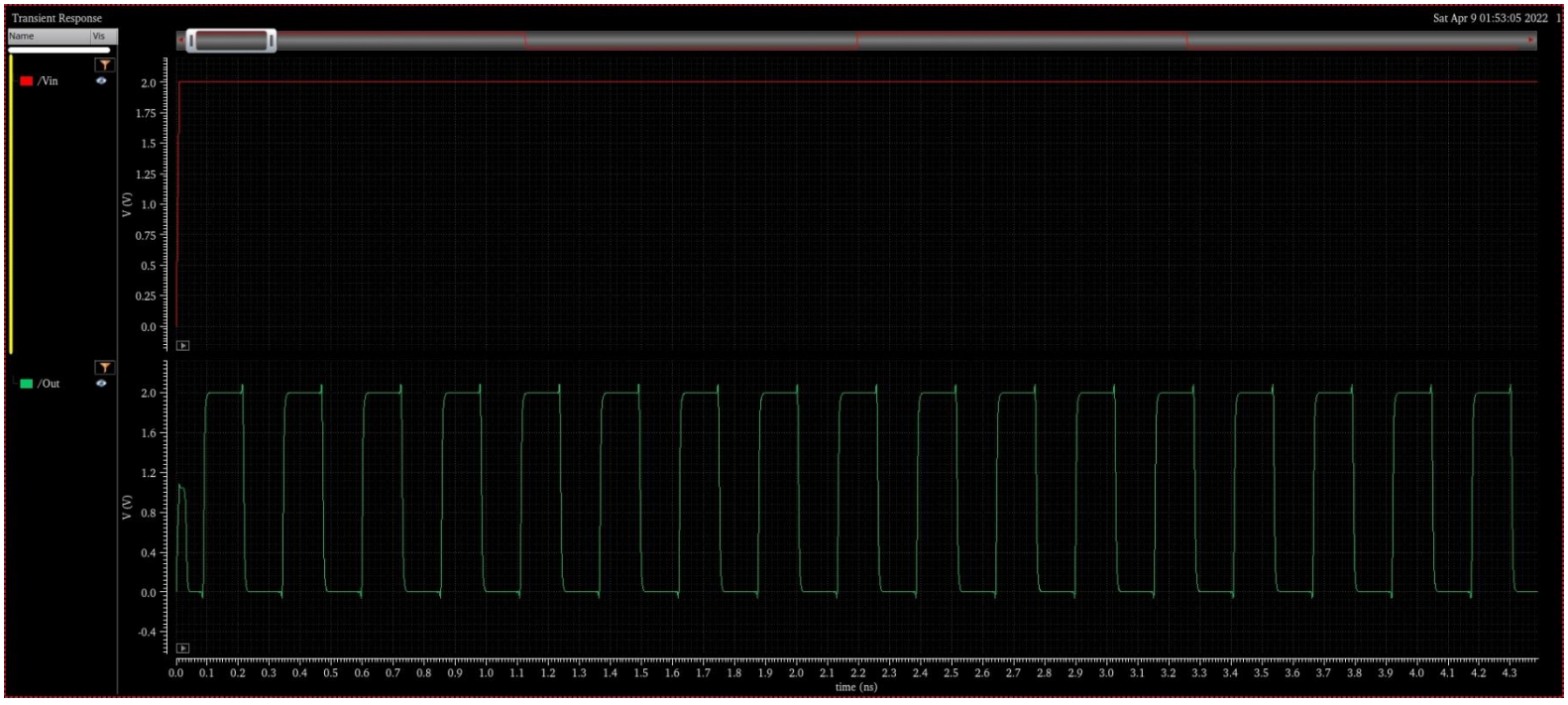
Kong Meng Vang
CPE 151-01 SP22





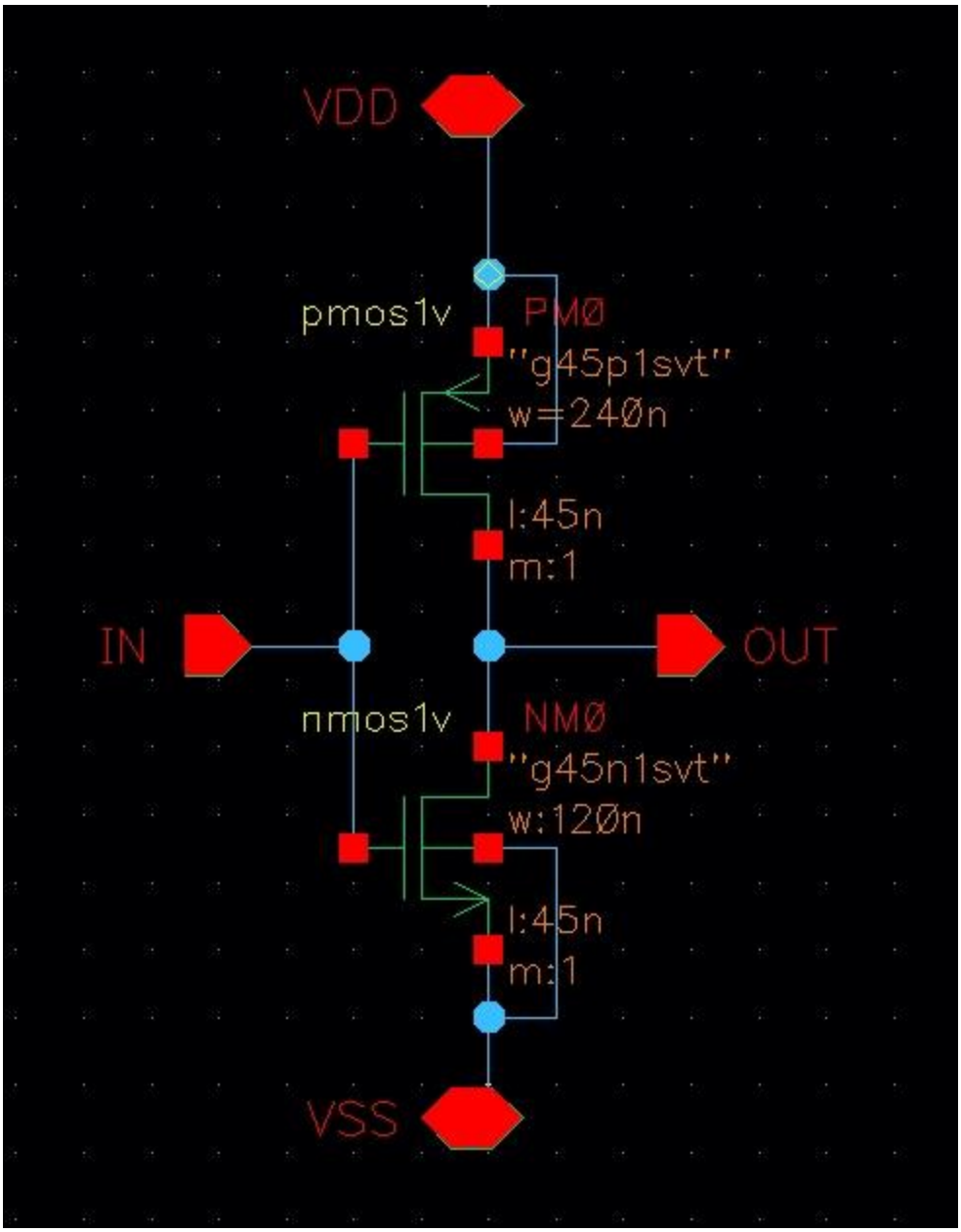
Kong Meng Vang
CPE 151-01 SP22



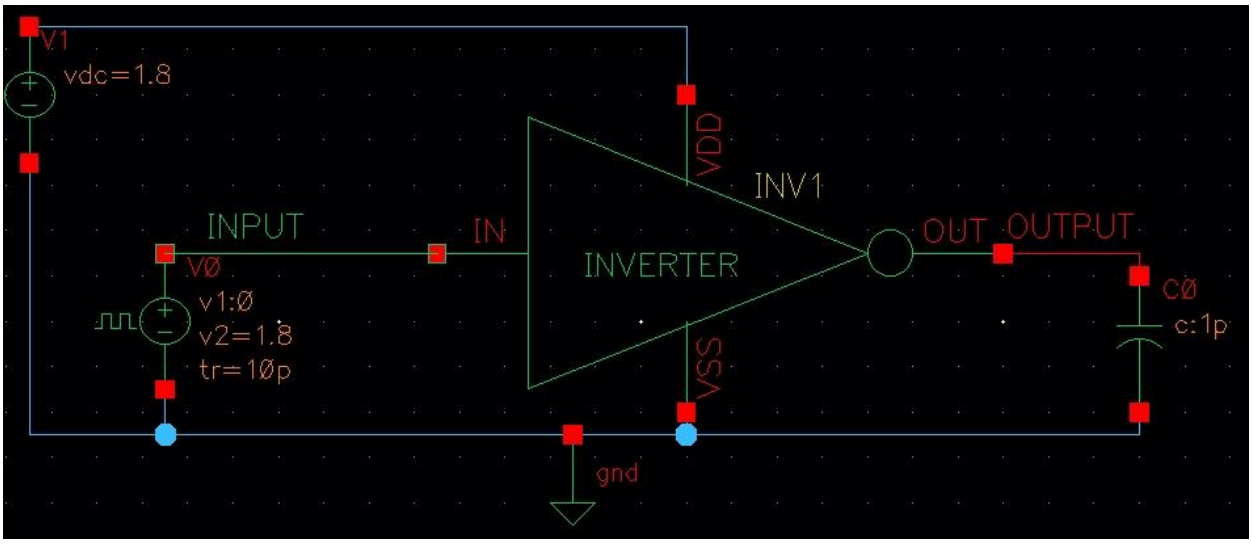


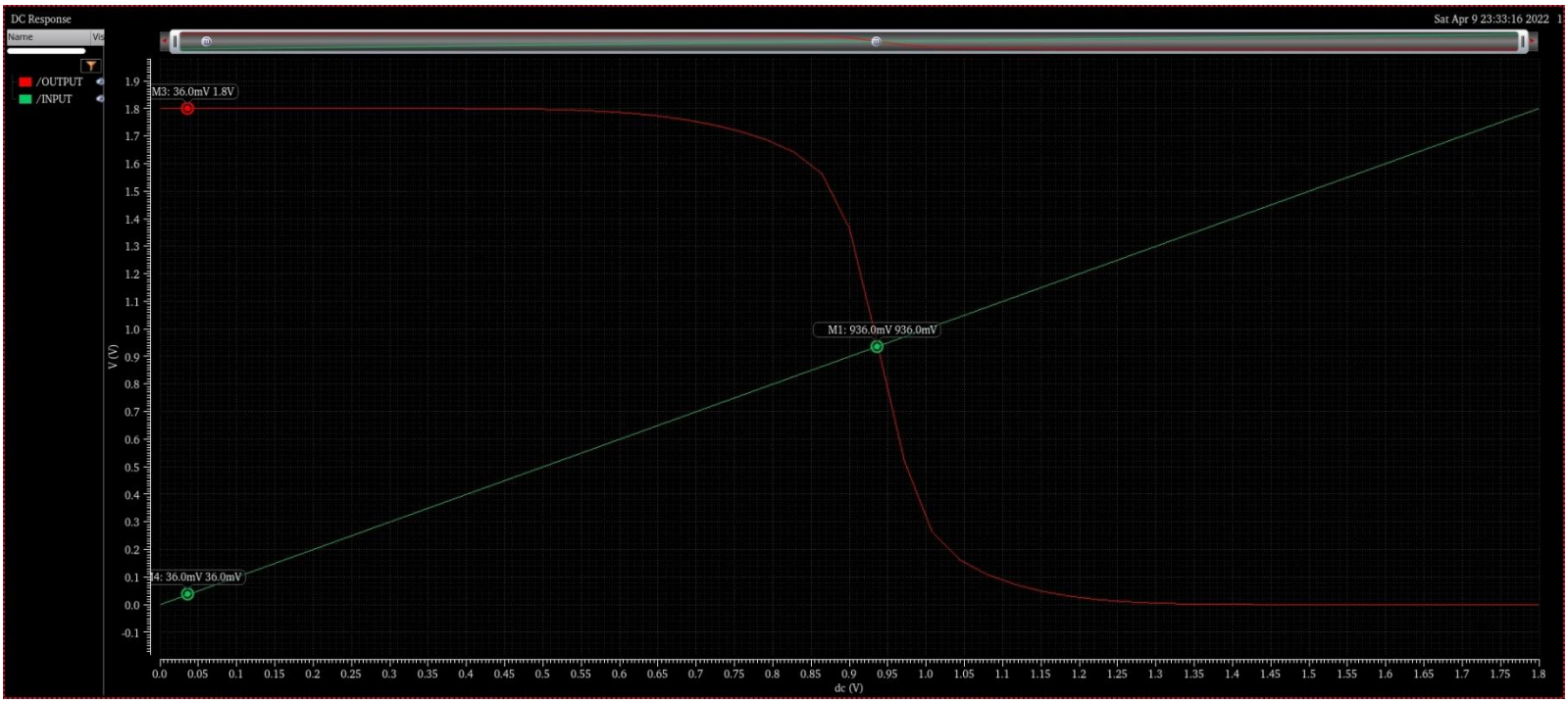
Kong Meng Vang
CPE 151-01 SP22

Step-2: DC Characteristics of an Inverter



Kong Meng Vang
CPE 151-01 SP22





Kong Meng Vang
CPE 151-01 SP22